Please insert the following new claims:

22.   A method for detecting an allele via hybridization, comprising:

hybridizing a target oligonucleotide to oligonucleotides that are coupled to different bead sets to form a complex, wherein the oligonucleotides that are coupled to different bead sets are oligonucleotides with and without a spacer; and

assaying the complex for specificity of different alleles.

23.   The method of claim 22 further comprising separating allele specific nucleic acid fragments.

24.   The method of claim 23 wherein separating allele specific nucleic acid fragments comprises using oligonucleotides for specific polymorphisms coupled to different bead sets.

25.   The method of any one of claims claim 22 further comprising coupling oligonucleotides for specific polymorphisms to different bead sets.

26.   The method of any one of claims claim 22 further comprising coupling oligonucleotides with and without a spacer to different bead sets.

27   The method of any one of claims 22 further comprising obtaining a target nucleic acid sample containing multiple alleles, each allele having a unique set of heterosequence sites.

28.   The method of any one of claims claim 27 further comprising amplifying the target nucleic acid.

29.   The method of any one of claims 27 further comprising denaturing the target nucleic acid into single stranded nucleic acid.

30.   The method of any one of claims 22 further comprising confirming the sequence of the template by hybridizing the nucleic acid templates with a second bead set that is complementary to the template and measuring the hybridization of the nucleic acid templates by flow cytometry.

31.   The method of any one of claims 22 wherein the target oligonucleotide is an HLA allele.

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32.   The method of any one of claims 22 wherein the bead sets that are coupled to the oligonucleotides with and without a spacer are conjugated with different oligonucleotides and can be identified by a fluorescence color ratio.

Support for the new claims can be found throughout the application as originally filed, including:

Claim 22: Paragraphs 52 and 69;

Claim 23: Paragraph 7;

Claim 24: Paragraph 69;

Claim 25: Paragraph 69;

Claim 26: Paragraph 69;

Claim 27: Paragraph 34;

Claim 28: Paragraph 34;

Claim 29: Paragraph 34;

Claim 30: Paragraph 72;

Claim 31: Paragraph 6; and

Claim 32: Page 15, lines 5-9 of Provisional Application to which priority is claimed and which is incorporated by reference.

REMARKS

Applicant would like to thank Examiner Strzelecka for the telephonic conference in which it was discussed that applicant would cancel all of the pending claims and submit a new set of claims in response to the Restriction Requirement. Applicants would also like to thank the Examiner for agreeing to enter the new claims.

In the Office Action of January 8, 2003, a restriction requirement was imposed on claims 1-21 according to the following groupings:

I.   Claims 1-6 and 16-19, drawn to a method for separating nucleic acid molecules, classified in class 435, subclass 91.1;